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RESEARCH REPORT

MARINE CORPS AVIATION: IT'S TIME TO
STRENGTHEN THE MARINE EXPEDITIONARY UNIT (MEU)

LT COL RICHARD W. CHAMBLISS, USMC

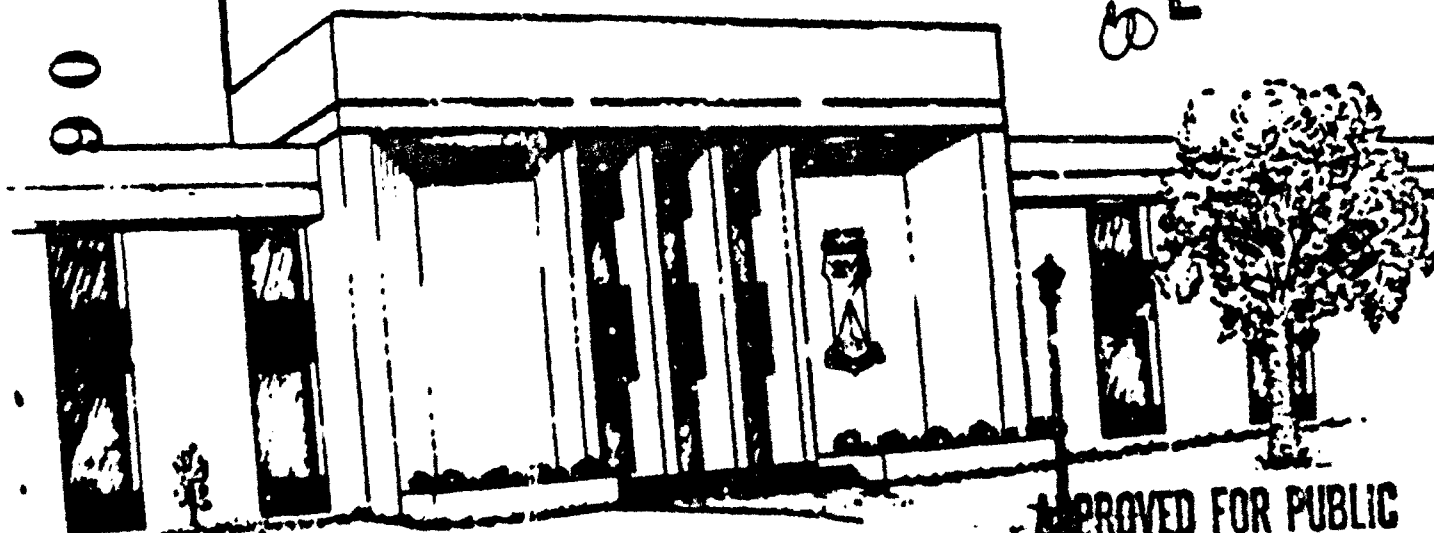
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UNITED STATES AIR FORCE
MAXWELL AIR FORCE BASE, ALABAMA

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MARINE CORPS AVIATION: IT'S TIME TO STRENGTHEN
THE MARINE EXPEDITIONARY UNIT (MEU)

by

Richard W. Chambliss
Lieutenant Colonel, USMC

A DEFENSE ANALYTICAL STUDY SUBMITTED TO THE FACULTY
IN
FULFILLMENT OF THE CURRICULUM
REQUIREMENT

Advisor: Lieutenant Colonel Charles R. Armstrong

MAXWELL AIR FORCE BASE, ALABAMA

March 1989

DISCLAIMER

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EXECUTIVE SUMMARY

TITLE: Marine Corps Aviation: It's Time to Strengthen the Marine Expeditionary Unit (MEU)

AUTHOR: Richard W. Chambliss, Lieutenant Colonel, USMC

➤ The author asserts that in the next ten to fifteen years the probability of employing the MEU in limited conflicts on behalf of United States foreign policy interests will increase. Further, that the threat posed by likely enemies is sophisticated enough to require enhanced combat capability for the MEU to be an effective deterrent. The author proposes a solution to this problem with the assignment to the MEU of Marine Corps tactical fixed-wing aircraft and command and control assets in a composite force structure. This concept of employment of existing aviation assets is within the context of current Marine Corps doctrine but is not normally applied at the MEU level of operations. (S)

BIOGRAPHICAL SKETCH

Lieutenant Colonel Richard W. Chambliss has been involved with Marine Corps fighter/attack aviation since his designation as a Naval Fight Officer in 1969. Serving first as a F-4J Radar Intercept Officer, he was redesignated as a Naval Aviator in 1971. During his time in the Phantom he amassed nearly 3000 hours. Following graduation from the Marine Corps Command and Staff College in 1981, he served as a Project Team Leader for the development of the new Marine Corps tactical command and control system, the Tactical Air Operations Module (TAOM). In 1985, he transitioned to the F/A-18 Hornet and in 1987, assumed command of Marine Fighter Attack Squadron 333, the eighth Marine Corps squadron to transition to the Hornet. Lieutenant Colonel Chambliss is a graduate of the Air War College, class of 1989.

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CHAPTER I

INTRODUCTION

This study is about United States Marine Corps aviation, specifically fixed-wing tactical aviation. It focuses on the roles and the missions for Marine Corps aviation within the context of current doctrine, national interests, and a postulated threat to these interests today and for the next ten to fifteen years. I submit that the Marine Corps doctrine of combined arms integration and force employment, as manifested in the Marine Air Ground Task Force (MAGTF) concept, is valid and appropriate now and in the future. However, I will argue that this concept is violated in the deployment and employment of the Marine Corps' smallest MAGTF, the Marine Expeditionary Unit (MEU). There are valid reasons why the integration of ground and air (tactical fixed-wing) forces at this level of the MAGTF is not currently achieved. An assessment and critical analysis of the MEU and its current capabilities, the world situation with regard to possible conflicts to United States' interests, and the resident capabilities of high technology aircraft will show that the MEU should be supported by Marine Corps fixed-wing aircraft.

New concepts for the deployment and employment of conventional armed forces are required as the Soviet Union and the United States enter a new era of detente. General Secretary Gorbachev has, through negotiations and diplomacy, attacked three of the cornerstones of United States national security strategy. First, he seeks to eliminate nuclear weapons totally. These are weapons that the United States relies on for both

nuclear deterrence and as a back-up for conventional force deterrence. Secondly, he seeks to undermine the global alliance network of the United States. Under the auspices of opening trade between the Soviet Union and the rest of the world, he is expanding Soviet influence globally, which will require Soviet presence and protection for these new areas of interest. Thirdly, he is challenging the West to reduce its conventional forces by offering unilateral Soviet force reductions. This act attacks the forward deployed strategy of the United States as well as the psychology of the Western mind-set regarding the perceived threat (1:9A).

An analysis of Soviet actions and intentions in conjunction with the realities of the United States' future budget priorities is a sobering exercise. Of the many implications of these Soviet actions, none is more serious for the United States than the global perception that both superpowers are undergoing major arms reductions. While a reduction of tensions between the United States and the Soviet Union is a positive deterrent against global conflict between the two superpowers, it may prove to be destabilizing in terms of regional Third World conflicts (2:8A). History shows us that there are people throughout the world who would take advantage of any real or perceived weakening of military capability or intent to employ military force by the United States or the Soviet Union. Current events invite us to recognize that religious conflicts, border disputes, and terrorists' activity throughout the world are serious problems that effect the United States' security and interests in a variety of ways. Chief among these interests, now and in the foreseeable future, is economic freedom (3:3-6). Direct attacks on United States carriers (airlines and ships), the taking of United States nationals as

hostages, the nationalization of United States business enterprises in foreign countries, military coups in Third World trading-partner countries, armed force, and ideological subversion against allies are some of the ways economic freedom is altered.

The United States' national security strategy is designed to counter a wide spectrum of threats. The instruments of national security policy, from which the power to implement this strategy evolves, are diverse. Linking these instruments through policy to achieve national goals requires broad vision and flexible thinking. Framers of strategy who use conventional thinking will be hard-pressed to accommodate the immense spectrum of threat facing the United States in the near future. The same will be true of those charged with decision and policy making.

CHAPTER II

CONCEPT

The purpose of this study is to analyze the feasibility of a new concept in the deployment and employment of the Marine Corps' aviation assets, specifically fixed-wing and command and control assets.

Senior Marine Corps leaders are currently assessing the posture of Marine Corps aviation to meet any future threat. They are looking at the possibility of an all Vertical And Short Takeoff And Landing (V/STOL) capable fighter and attack force. Their primary justification for this concept is that it would allow Marine expeditionary forces to be supported by highly capable aviation assets either entirely from the sea (from small deck carriers) or from unimproved landing sites ashore. This concept shows great vision by attempting to counter future threats by accommodating mobility requirements and the likely environmental constraints of limited or no landing fields in an operational area. This concept has great promise for the future needs of the Marine Corps, but it will take time to develop. It is not now a reality. This study focuses on the resources available today and how best to structure forces for the present time and the next ten to fifteen years.

Scope of Forces

MEUs serve as a viable and creditable instrument of United States national security. Always afloat, these units can perform a variety of functions ranging from simple presence to full combat. The following are

some of the contributions to political reinforcement that the MEUs are capable:

- * Humanitarian assistance,
- * Show of force,
- * Reinforcement of U. S. embassy security,
- * Protection of U. S. citizens and property,
- * Evacuation of U. S. citizens under permissive or forcible conditions,
- * Reinforcement of friendly governments threatened externally or within,
- * Punitive raids, and
- * Seizure of the political and/or economic center of gravity of an objective nation for leverage to obtain negotiated concessions or policy modifications (4:307).

Their utility and readiness for employment is demonstrated daily throughout the world. The composition of these units varies slightly, depending on the type of amphibious shipping available and to which theater of operations they deploy. Fig. 1 shows the composition of a notional MEU. The MEU has the firepower, mobility, and sustainability once ashore to perform its missions against limited threats. What it does not normally have is a fixed-wing aviation component to enhance its capability against an ardent, sophisticated threat.

Although some MEUs deploy with a detachment of six AV-8 Harriers embarked and two KC-130 tankers shore based, they are not all fully supported by fixed-wing Marine Corps aircraft. There are three primary reasons for this. First, the Marine Corps' tactical fixed-wing aircraft, the F/A-18, the A-6, and the EA-68, cannot operate from amphibious ships. Second, the MEU operates as part of an Amphibious Task Force, which is

MARINE EXPEDITIONARY UNIT (MEU)

COMMANDED BY COLONEL

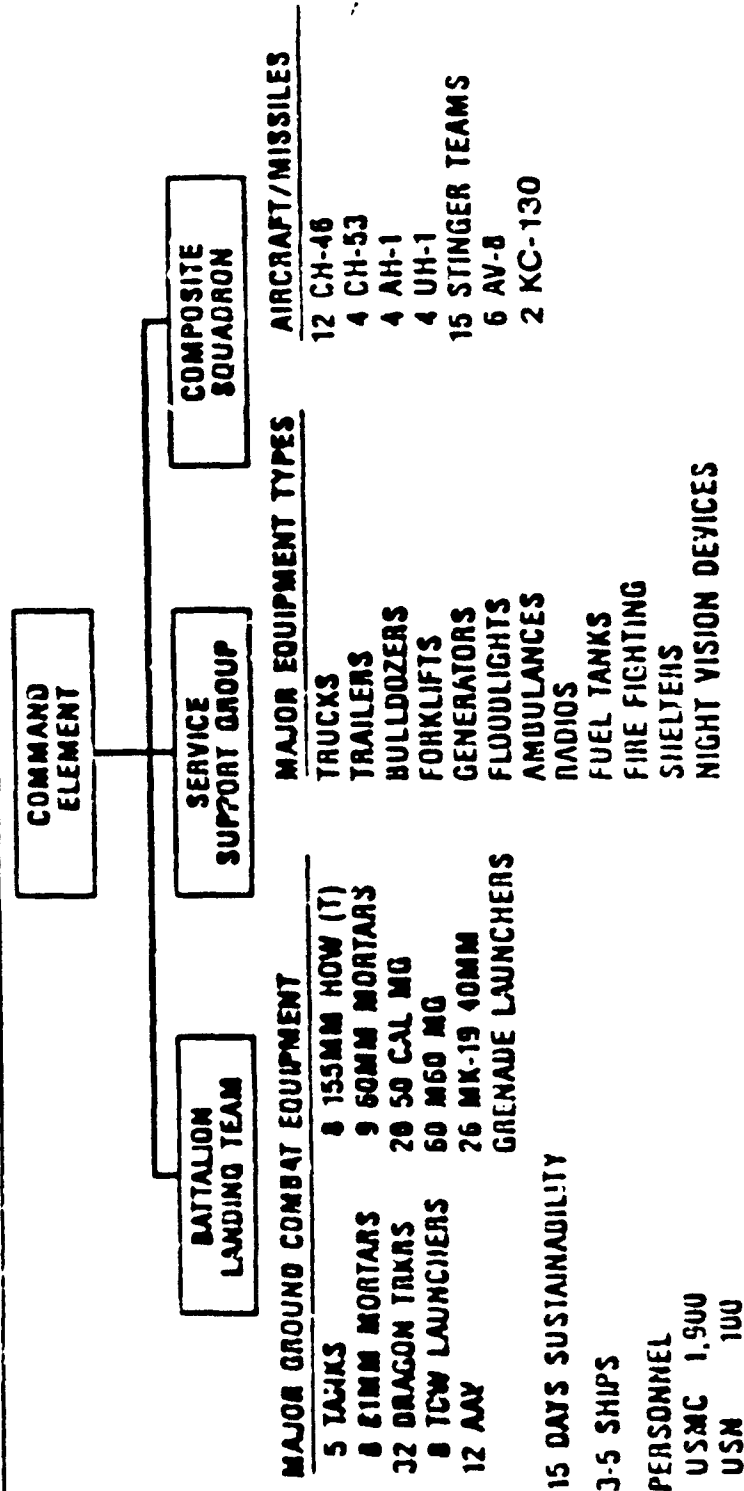


FIG. 1. Notional Marine Expeditionary Unit (MEU)

normally part of a larger Naval Task Force containing large deck aircraft carriers with fixed-wing tactical aircraft embarked. It is from these carriers that the MEU would receive fixed-wing aviation support, if required. Third, Marine Corps doctrine does not normally provide for fixed-wing aviation elements in support of units smaller than Brigade size. Fig. 2 shows a notional Brigade composition. However, the foundation of Marine Corps war-fighting doctrine is the MAGTF concept. This concept integrates air, ground, and logistic elements to create the strongest possible combat unit. The MEU, truly at the leading edge of any potential conflict, is without a key element of combat power (fixed-wing aircraft) other than what might be provided by the Navy.

To structure a small composite aviation element that is comprised of Marine Corps fixed-wing assets and to place this element within the MEU organization under the command of the MEU Commander could prove to be an economical way to strengthen the combat capability of this most flexible forward-deployed instrument of our nation's power. Fig. 3 shows a MEU with fixed-wing assets included. The actual composition of this aviation element could vary significantly depending on many variables. Factors such as roles and missions, logistics, site support, host nation restrictions, and overfly rights would have a bearing on composition and will be discussed under ASSUMPTIONS AND LIMITATIONS. The "who" and the "what" will be described at this time.

The cornerstone of this composite force is the F/A-18 Hornet. The Navy and the Marine Corps have been operating this aircraft for about six years, and it has proven to be extremely effective in an amphibious operational scenario. The multi-role capability of this aircraft is ex-

MARINE EXPEDITIONARY BRIGADE (MEB)

COMMANDED BY BGEN

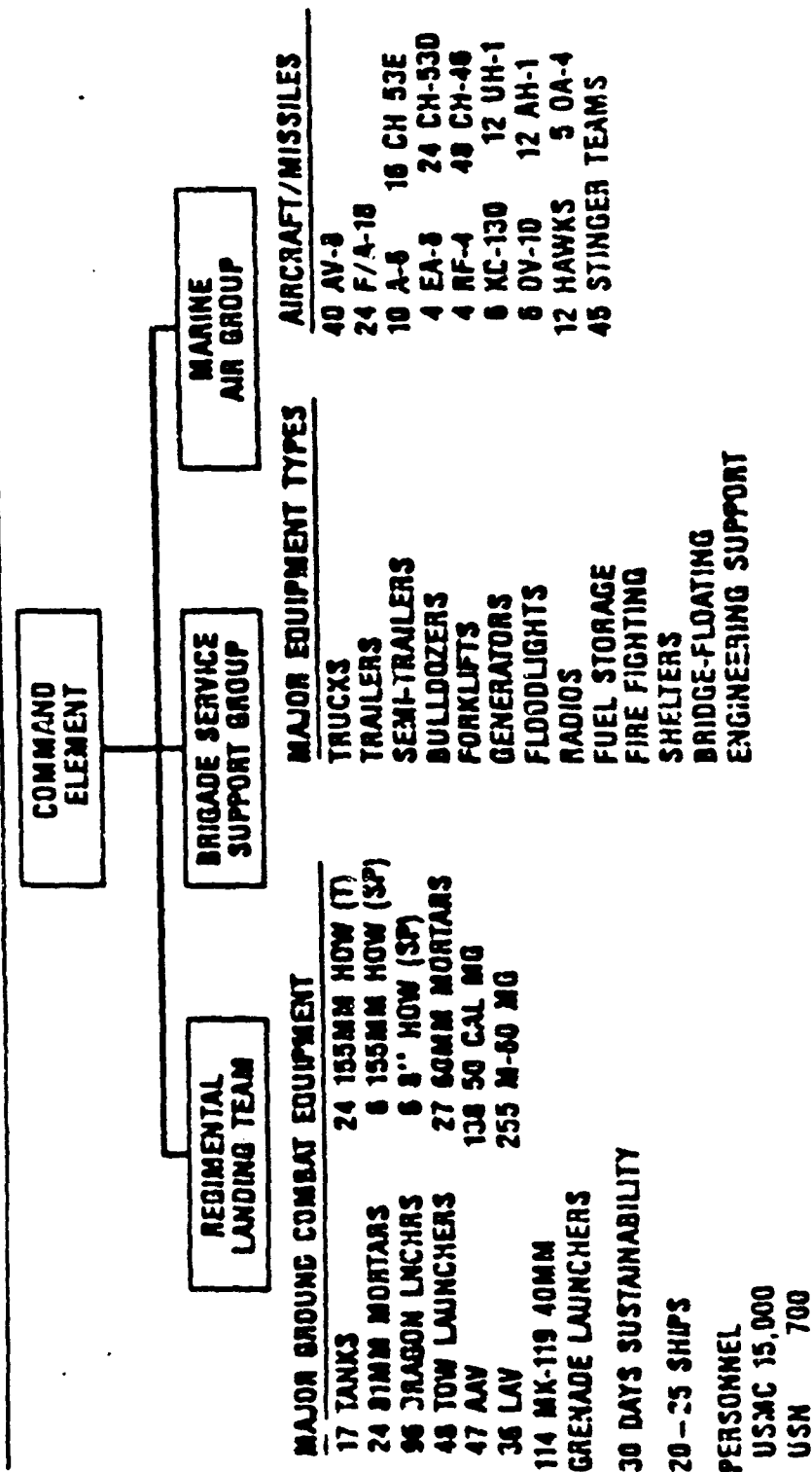


FIG. 2. Notional Marine Expeditionary Brigade (MEB)

MARINE EXPEDITIONARY UNIT (MEU)

COMMANDED BY COLONEL

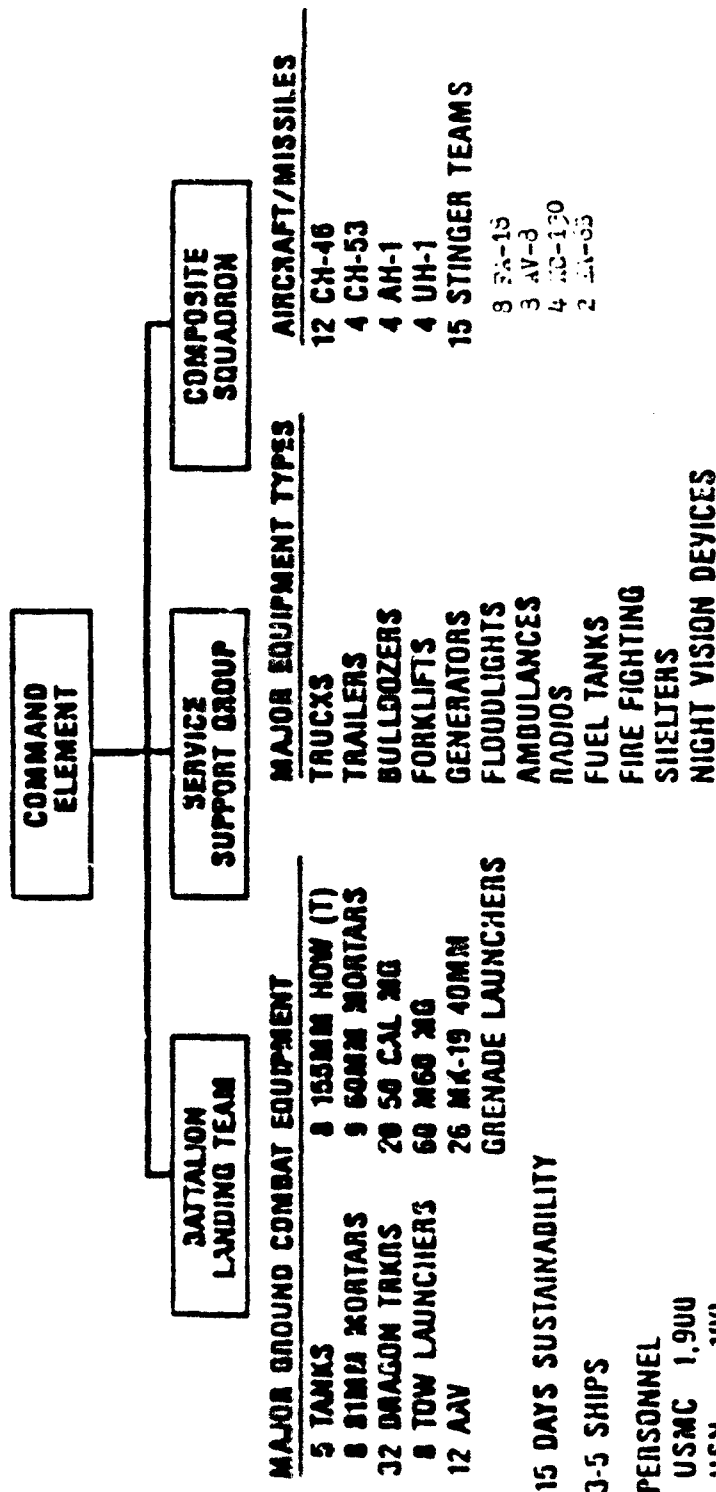


FIG. 3. Notional MEU with Extra Aircraft/G3

traordinary. I have personally flown this aircraft in training scenarios where it successfully performed a suppression of enemy air defense using HARM missiles, followed up with a hard kill on these defenses using general purpose bombs, rolled to an air-to-air combat patrol with Sparrow, Sidewinder, and 20 mm guns, provided helicopter escort for vertical assault, and was available for close air support (CAS). All of this was done on one flight and with one ordnance load of various types of munitions tailored to each task. The Hornet has a combat radius in excess of 500 nautical miles (5:28-29). The EA-6B electronic warfare aircraft, currently operated by both the Navy and the Marine Corps, would be an integral part of this force. It has the capability to employ the HARM missile in addition to its electronic combat capability. The KC-130 tanker would provide the tactical refueling and some limited logistics support. The Harrier would be a part of this force, if not already embarked with the MEU. In the short takeoff mode, the Harrier has a fully-loaded combat radius in excess of 350 nautical miles (6:43). The final major component of this force would be the Marine Corps' new Tactical Air Operations Module (TAOM). This equipment is designed to function as the Tactical Air Operations Center (TAOC) for Brigade-size MAGTFs or larger. The TAOM is a modularized, transportable command and control system with a suite of radios capable of both voice and data-link communications. It is one of the only systems in existence which is totally interoperable with all United States service air command and control systems, as well as allied systems. Its modularity and distributed data-bus architecture allows the system to function using up to four International Standard Organisation (ISO) shelters, 8x8x20 feet in size, that are interconnected

using fiber-optic cable. It can operate with up to five separate radars, also using lightweight fiber-optic cable. These radars can be a mix of the TPS-59 long-range radar, which has a coverage to 300 nautical miles, or the smaller TPS-63 short-range radar. With only one module and one radar, the TACM can perform all the functions of early warning, surveillance, weapons control, and air space management and this reduced capacity would still be sufficient for our purposes here. Additionally, this system is designed to function as an alternate Tactical Air Command Center (TACC) under certain conditions. Fig. 4 depicts the many command and control nodes with which this system can interface in either a TACC or TACC role.

The composite force would then contain the following major systems at a minimum:

TYPE	NUMBER
F/A-18	6-8
EA-6B	2
KC-130	4
AV-8B	6-8*
TACM	1 module
TPS-59	1

* AV-8s assigned here or embarked

The primary purpose and focus of these aviation assets would be to provide CAS to the Ground Combat Element of the MEU. Employment of aircraft would be scenario dependent and based on the ground commander's scheme of maneuver. Assets could be packaged for mass in a fluid or maneuver situation or could be sequenced to provide extended coverage in a static

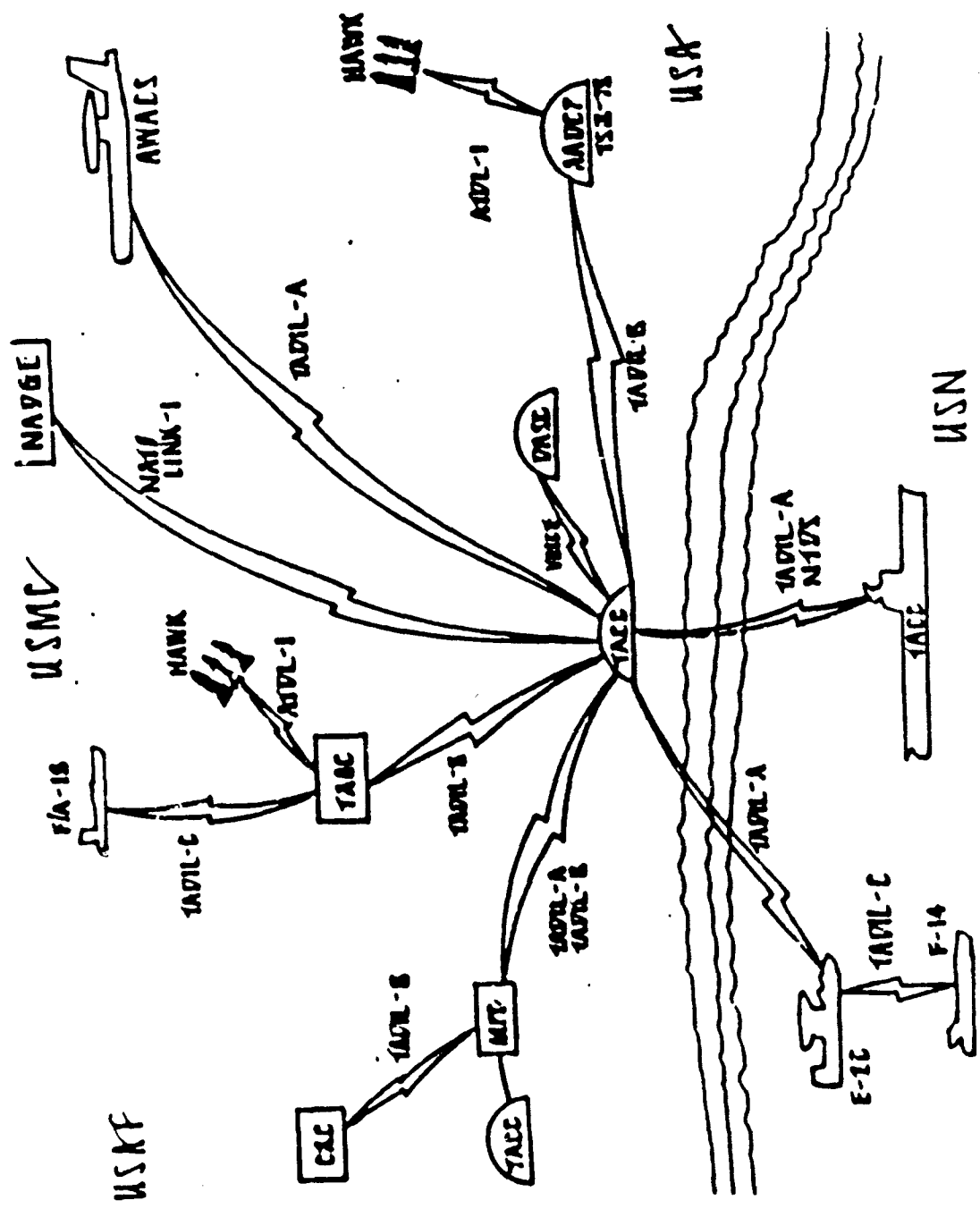


FIG. 4. Tactical Air Operations Module, Interoperability

situation. The bombing accuracy of the Hornet is in the 5 to 7 mil range (5:33). "A one mil system is one that would consistently place 50 percent of all bombs dropped at a target, from an altitude of 1000 feet, within a one foot diameter circle on the ground" (5:33). Recent bombing competition within the Second Marine Aircraft Wing showed that the Harrier has similar accuracy. It was not uncommon for participants in each aircraft to achieve a circular error probable (CEP) of 35 feet or better using various delivery profiles. CEP is "an imaginary circle drawn on the ground inside which 50 percent of all bombs dropped have landed" (5:32). It is important to note the superb accuracy of these aircraft. They provide a truly precise fire support system that the ground commander could direct against targets in built-up areas and still be confident of a minimum of collateral damage.

Ideally, this force would operate from airfields provided by the host allied nations within the proximity of the amphibious task force. Of all the current theaters of operation, Southwest Asia presents the largest problem for locating suitable operating bases. However, the range and endurance of the aircraft involved allow considerable latitude for responsive and timely support from distant sites, as will be shown.

Several different deployment strategies are possible with this force. The best option would be to have one of these units deployed at all times within each area where amphibious task forces currently operate. This would require as many as four such units to be deployed simultaneously in various theaters around the world. Theaters for permanent rotation would include the Indian Ocean, the Mediterranean, the Caribbean, and the Western Pacific. Other units could be assembled for other

areas of interest. So as not to inhibit the inherent capability of the amphibious task force to function anywhere at sea within its operating area, this force would be required to move rapidly from one site to another in order to remain within a reasonable proximity of the fleet. Its reliance on tactical in-theater transportation is apparent, as well as on a host nation's support for jet fuel, water, etc. However, analysis will show that sustaining an aviation element of this size for fifteen days is feasible. Furthermore, its ability to begin operating from a standing start or within hours of arrival at its operating site is also possible. Another scenario would be to have a force such as this organized and trained in the specifics of support of the MEU, but not in the theater of operations. The worst situation would be to give no thought to integrating the full range of Marine aviation capability with the ground combat capability of the MEU.

Employment Strategy

The primary purpose of having these aviation assets would be to provide CAS to the Ground Combat Element of the MEU. Bombs on target at the time and place that the ground commander needs them would be the objective.

There is no intent to infringe on the roles and missions of other services in this concept. Rather, there is every intention of suggesting a better way to perform certain missions than currently exists. The Navy certainly has the capability of performing CAS from its aircraft carriers. However, it is not normally one of its primary missions; as a consequence, its pilots do not do as much training in this area as do their

counterparts in the Marine Corps. The Air Force can also provide creditable CAS; but factors, such as organization, doctrine, communications, training, and priorities elsewhere, would limit its effectiveness for this type of mission.

The Marine Corps relies heavily on the CAS mission because the ground component has little fire support in the initial phase of an amphibious operation. Also, once established ashore the Ground Combat Element has a relatively light indirect fire capability. Thus, tactical aviation is an essential part of the combat power of the landing force. The CAS mission is best performed in a low-threat environment. However, it can be performed in a high-threat environment, if that threat can be effectively neutralized. For this reason, the F/A-18 is the cornerstone of this composite force. The F/A-18 possesses the necessary capabilities to perform all the tasks associated with the purpose of this combat force. The Hornet would perform the mission and tasks currently assigned to Marine Corps Fighter and Attack squadrons:

Mission. To intercept and destroy enemy aircraft under all-weather conditions, to attack and destroy surface targets, to escort friendly aircraft, and to conduct such other operations as may be directed.

Tasks. Intercept and destroy enemy aircraft in conjunction with ground and airborne fighter direction.

Provide fighter escort of friendly aircraft.

Maintain the capability to attack and destroy surface targets with those conventional weapons compatible with assigned aircraft.

Conduct close air support operations within the capabilities of assigned aircraft.

Perform visual reconnaissance.

Maintain the capability of deployment or extended operations employing aerial refueling.

Perform organizational maintenance on assigned aircraft.

Maintain the capability of deploying and operating from aboard aircraft carriers, advanced bases, and expeditionary airfields. (7:37)

The Harrier would perform the mission and tasks currently assigned to

Marine Attack squadrons:

Mission: To attack and destroy surface targets under day and night VMC conditions, escort helicopters, and conduct such other air operations as may be directed.

Tasks. Conduct close air support.

Conduct armed reconnaissance, interdiction operations, and strikes against enemy installations, utilizing all types of conventional weapons compatible with assigned aircraft.

Conduct air defense operations within capability of aircraft assigned.

Maintain capability to operate during darkness and under instrument flight conditions to include ordnance delivery under the control of ASRT's.

Maintain the capability of deployment or extended operation employing aerial refueling.

Maintain the capability of deploying and operating from aboard carriers and other suitable seagoing platforms, advanced bases, expeditionary airfields, and remote tactical landing sites.

Maintain the capability to perform emergency resupply missions compatible with assigned aircraft.

Conduct armed escort missions in support of helicopter operations.

Perform organizational maintenance on assigned aircraft. (7:36)

The EA-6B, the KC-130, and the TACM would provide support for the accomplishment of these missions and tasks. It would take all the aircraft and command and control assets listed in the structure section working in concert to achieve the desired level of effectiveness in accomplishing these tasks. Each of the separate weapon systems has its own unique

capabilities; but through an integration of employment, a synergistic effect would occur to the benefit of the ground force.

These assets should be in the operational command of the MAGTF commander as a part of his Aviation Combat Element (ACE), even though they are not collocated with him. All operational tasking should come from the MAGTF commander, who receives his orders from the Commander Amphibious Task Force. The MAGTF commander should issue the movement orders, the alert orders, the intelligence summaries, the Air Tasking Orders, or mission-type orders, if he so desires. Command of the detachment would be by an Officer-in-Charge assigned from the F/A-18 or AV-8 community.

There are organizational and doctrinal problems associated with an aviation component such as this. However, placing these assets within the ACE of the MEU simplifies the command and control issue. Fig. 5 shows the Task Organization and command lines for the recent Operation Praying Mantis in the Persian Gulf (8:65). In that situation the fixed-wing assets described here would fall under the aviation element as part of the Contingency Marine Force (CM) 2-88. An example of successfully using a similar structure was seen during the most recent Cobra Gold Exercise in Thailand during July and August of 1988. In that exercise, the shore-based Marine fixed-wing aircraft were under the operational control of the Commanding Officer of the 15th Marine Expeditionary Unit, who was embarked aboard the USS New Orleans (7:42). One of the primary reasons for integrating the TACM into this force would be to provide the connection between the MAGTF commander and the fixed-wing element through the Navy's communication system.

TASK ORGANIZATION
SAO "B"/CM 2-08



The ground commander is the ultimate user of these assets, so the tasking for support should be generated by him based on his scheme of maneuver. Terminal control for ordnance delivery would be accomplished by his Forward Air Control Parties (FACP) on the ground, by a Forward Air Control Airborne [FAC(A)] from his helicopter assets, or by one of the fixed-wing aircraft in a FAC(A) or Tactical Air Control Airborne [TAC(A)] role. This would be true for on-call, strip alert, or preplanned CAS missions. To get to the Control Points (CP) where the aircraft normally came under the control of a terminal controller, they would work their way through the Navy's command and control system. Direct communication between the aircraft and the ground commander's Tactical Air Control Party (TACP) would eliminate the need for a Direct Air Support Center (DASC) in this concept. The entry and exit of the Navy's airspace for the Amphibious Objective Area (AOA) would come from the Task Force Commander's Tactical Air Direction Center (TADC). Those aircraft would enter the Navy's command and control system the same as carrier-launched aircraft. Once at a CP, they would be handed over to a Marine Corps terminal controller. Control of their flight from takeoff to contact with the Navy control system would be via international, host nation, or United States Air Force rules and procedures, depending on who owns the airspace.

In the spectrum of conflict from low intensity-high probability to high intensity-low probability, the MEU is considered to be best-suited for the low intensity arena. However, its combat role should be viewed more correctly as one of limited duration rather than by levels of intensity because of the abstract nature of that definition. The MEU

carries with it enough logistical support for fifteen days of sustainability. It contains tanks, artillery, light-armored vehicles, and anti-tank and anti-aircraft weapons. This makes its capacity for combat on the conventional scale of low to high intensity more dependent on duration than on intensity. Nevertheless, there are factors which limit its utility. As a seaborne force, its area of operations will normally be a littoral somewhere in the world. Its range of depth beyond the coastal areas is increased somewhat with its vertical assault capability, but it must be close enough to its amphibious ships for resupply.

Another limiting factor would be the size and sophistication of the opposing force. The MEU has a limited capability for making a forced entry against an opposed landing. However, once ashore it can wage an intense seizure or defense of its objectives through maneuver and firepower. The more sophisticated and the larger the threat, the more firepower the MEU would require. With the proliferation of arms sales throughout the world, it can be anticipated that even the most unsophisticated enemy will possess modern weapons and probably have had the training to employ them. It is for this reason that the close support of the MEU by Marine tactical aircraft is essential. Other services could provide this support, but none could do it as effectively as the Marine Corps. History has shown that some of the most effective and coordinated use of tactical aviation in a close support role has been made by the Marine Corps (10:16). There are valid reasons for this. First, since 1919, when Marine Lieutenant L. H. M. Sanderson developed dive bombing as a form of fire support, Marine aviators have been instrumental in adapting innovative ways to employ tactical aircraft in support of ground

forces (11:333). Second, every Marine pilot is a graduate of the Marine Corps' Basic School, where he learns to understand the Ground Combat Element's tactics and intentions. Third, the Marine Corps' doctrine of combined arms employment of forces requires constant and continuous integrated training between the ground and air components of the Marine Corps. Finally, Marine fighter/attack aircraft have always been multi-role capable. Today, in addition to their other capabilities, the Hornet and the Harrier are two of the best CAS aircraft in the world. This is true because both aircraft: (1) can deliver the full range of conventional air-to-surface munitions available today, (2) can maneuver to and from the target area at high speed, (3) can carry the latest in self-protect electronic warfare equipment, (4) can self-escort to and from the target by carrying air-to-air weapons, (5) can put bombs on target using avionics targeting systems designed specifically for this mission, and (6) can carry a suite of radios designed to allow the best possible communications with all control agencies in the command and control system down to the terminal control agent.

Deployment Strategy

The deployment strategy requires a two-phased approach. The first phase would be to move the unit to an intermediate site where it would establish a garrison-type support base. Any of the airfields currently used by the United States' forward deployed aviation units would be adequate for this purpose. Examples would be the Naval Station Sigüenza in the Mediterranean, the Naval Air Station Cubi Point in the Philippines, the Naval Station Diego Garcia in the Indian Ocean, the

Naval Air Station Roosevelt Roads in the Caribbean, Howard Air Force Base in Central America, and Mildenhall Air Force Base in Western Europe. From these intermediate bases, the unit would then deploy to more forward bases of which some are already assigned as contingency sites. The concept would be to operate from the most forward bases for periods of three or four weeks at a time, which coincides with the normal length of a stay for training exercises. At the end of each time block, the unit would move to another forward site or return to the intermediate base. All supplies and munitions for fifteen days of sustained combat operations would accompany the unit to each site. The objective is to get a highly capable aviation component as far forward as possible and ready to support the MEU within hours, instead of days.

Just as the MEU can serve as the lead element of a larger follow-on expeditionary ground force, this aviation component can serve as the lead element of a larger composite aviation force. Its utility is enhanced by being in the area of operations and not requiring strategic lift to deploy it there. Therefore, it would not compete with other forces for transportation at the critical moment of decision-making. One of the key elements in the Crisis Action Process, that of how best to move and position forces, is already solved with this concept for the initial phase of the most probable use of military force. This strengthened MEU may be all that is required in many instances, but it also would allow the decision-makers time to determine coherent courses of action.

CHAPTER III

ASSUMPTIONS AND LIMITATIONS

Key to this concept is the ability to operate from foreign bases. The author recognizes this as the major limitation. Most United States allies would be extremely reluctant to allow combat missions to be flown from within their borders. Nevertheless, this is required. Operating from these foreign bases under the pretext of training is one possible solution, but not a very good one. It is essential to reach agreements through diplomacy, negotiation, or invitation that would allow both peacetime training and combat missions to be flown. There are at least two factors that might prove persuasive in gaining these types of agreements from our allies. First, the aviation forces described here would be transient in nature, constantly moving within a theater of operations. Also, this would be a very small contingent that would require very little in the way of permanent facilities. The combat mission is anticipated to be one of shock and short duration. All peacetime training flights would conform to the host nation's rules and procedures. Second, there would be wisdom in having a quick reacting force available to deter instances of conflict at the outset, which if undeterred could lead to a larger conflict. Although many of our allies would be reluctant to absorb the international pressure for allowing combat missions to be flown from their countries, many would agree to the United States taking the decisive action in a peace-keeping role and suffering the preponderance of any political consequences. Though not easy, the basing issue could be solved.

Overfly rights present a problem similar to that of basing. Somewhat more latitude exists for dealing with this issue. The most effective means would be to formulate agreements with our various allies for these rights. Where this is not possible, as in the case with our French allies during the Libyan raid, alternative solutions could be found. Avoidance of the objecting nation is one possibility. There are other ways to solve this issue, but these details are beyond the scope of this study.

One major difference between strike or interdiction missions and CAS is that in the former a planner establishes the time on target; whereas, in the latter a terminal controller determines the time on target based on enemy action. This situation requires great responsiveness from the aircraft in the CAS role. Elements of this responsiveness are time of flight from takeoff to bombs on target or the time from a holding point to bombs on target. The closer the aircraft's operating base is to the ground force the better. The Harrier provides a unique capability to operate very close without the need of an established runway. However, in this concept it is assumed that all the aircraft would operate from a host nation airfield initially. Furthermore, the base could be as far away as 300 to 350 miles from the ground force and still provide adequate response. These distances are well within the operating range of the aircraft when fully loaded for their various missions. A call for support could be responded to within approximately 50 minutes from 350 miles away by aircraft on the ground, if they have been previously loaded and set up for scramble. This takes into account eight minutes for start, taxi, takeoff, and flight at .8 mach. Another key element in responsive-

ness is loiter time. Through a combination of external fuel tanks, aerial refueling, and the excellent endurance characteristics of the Hornet and the Harrier, adequate time on station would be achieved. Figures 6, 7, and 8 are area maps showing 300 and 350 mile radii overlaid on various airfields around the world.

Base security would be a problem from two aspects. First, there would be a ground threat from terrorists or special operations forces attacks. A combination of host nation and Marine aviation personnel would provide defense forces to counter this threat. Marine aviation personnel, equipped with light infantry weapons and trained in airfield defense techniques, could provide adequate security for these operations. Second, due to the forward nature of the bases of operation, it is conceivable that attacks by enemy aircraft would occur. The host nation's air defense would be the primary counter to such attacks. However, air defense would also be provided by the TACM, the F/A-18s, the AV-8s, and the Stinger missiles in coordinated defensive counter air role.

Logistical support is a problem perhaps as big as that of basing. However, the Marine Corps has devoted a great deal of effort over the last ten years to organizing forces and support packages for the employment of Brigade-size MAGTFs (12:26). The requirements for this relatively small composite squadron are but a microcosm of that required for the Aviation Combat Element of a Marine Expeditionary Brigade (MEB). An approach similar to that taken for the needs of the fly-in echelon of the Maritime Preposition Force would logically apply here. The use of prepositioned materiel also makes sense, as long as it can be done without detracting from the employment of the MEB for which it is intended. The



Arabian Peninsula and Vicinity

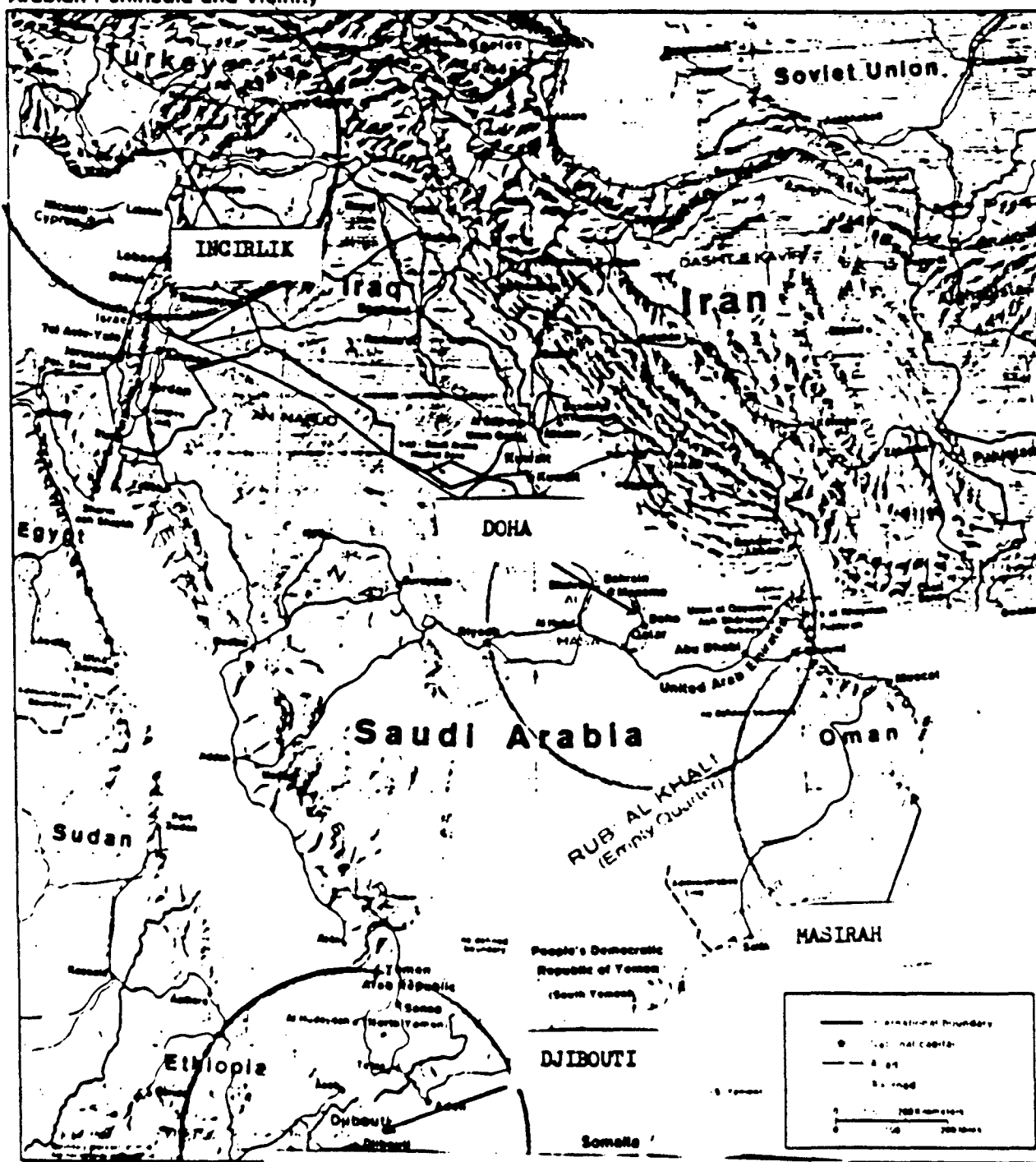


FIG. 8. Area Map, 300 Nautical Mile Radius

assumption that this aviation element would require only fifteen days of sustainability is made with the understanding that military operations rarely go as planned. Therefore, logistic planning would be based on two premises. First, that this unit would be a reaction force designed to enhance the MEU in a limited duration combat scenario and would cease to provide that capability at the end of a given time frame. Second, that planning must accommodate a long-term resupply concept because of the larger follow-on forces. Modification of existing logistics plans prepared for the employment of Marine Brigades, but reduced in proportion to the size of the composite squadron, would provide an initial data base.

Airfield facilities, such as arresting gear, Crash, Fire, Rescue (CFR) equipment, fuel storage, fuel dispensing, navigation and landing aids, are all requirements for a totally austere environment. All of these capabilities are resident in existing operational plans for the expeditionary employment of Brigade-size units. Operating from airfields that already have some of these facilities would obviously lessen the lift requirements. Also, the capability to operate without the need for large (outsized) support equipment would facilitate the movement of this unit within the various theaters of operation. Through a combination of alternative equipment and combat expedient procedures, it would be possible to find work-arounds to many of these deficiencies. For example, aircraft requiring an arrested landing could be diverted to an airfield with that capability. Planning ahead for such contingencies would ensure that fuel reserves would be computed to accommodate this type of problem. Another example of a work-around would be the need for a 30 ton crane. This size crane is normally required at an operating base for the remov-

al of damaged aircraft from the runway and for the placement of heavy vans in a large van complex. The 30 ton crane can be transported by air, but only by the C-5 aircraft. Work-arounds for this piece of equipment would be the use of smaller cranes in tandem or the use of forklifts. Having everything needed for support in packages small enough for transport in C-130 type aircraft is achievable due to the existing Marine Corps adherence to embarkation standards. The requirement to airlift large quantities of ordnance presents a significant problem, especially for the C-130 type aircraft. The mobile loading of ordnance trailers with selected types of munitions is one way to reduce the cube of these loads. Precise calculation of the total ordnance required could be done based on the sortie rate by type of mission, aircraft, and the number of operating days.

CHAPTER IV

FEASIBILITY

Informed analysts might wish to question the practicality or wisdom of this proposal. I would share their concerns about foreign airfield use, logistical support, command and control, and foreign political sensitivities, because they cannot be assumed away. They are all real problems that would require solutions. However, the focus of the analysis has been on the threat to the United States' national interests now and in the near future; the organizing, deploying, and employing of existing conventional forces to counter that threat; and the doing of all this within existing doctrine. Nothing suggested herein is outside the bounds of current conventional force capability or beyond the mutual self-interests of the United States and her friends and allies.

Within the context of the Goldwater-Nichols Act, this concept provides the Unified Commander with an integrated and quick-reacting air-ground-logistics force to employ either jointly or independently, based on his determination of what is best for his theater of operations. Moreover, in view of the increasing demands made on strategic lift and the potential constraints on permanent basing rights, this concept offers another alternative.

CHAPTER V

CONCLUSIONS

I believe that over the next ten to fifteen years a shift in the national interests of the United States will occur. The East-West ideological conflict will become somewhat blurred as all nations focus on economic survival. Reduced defense budgets, international economic interdependence, limited resources, and restricted markets will force the United States' foreign policy and diplomatic initiatives to focus on preserving economic freedom throughout the world. Military leaders will be forced to adapt their strategies to support these truly vital national interests and to do so with fewer resources available to them.

Within this context, the United States' maritime forces will play an ever-increasing role in the preservation of world peace, thus allowing international commerce to flow unimpeded. Naval Task Forces with Marines embarked serve as a flexible instrument of foreign policy and are ideally suited for this role. The concept described here suggests that these maritime forces need to be augmented in order to provide a more capable war-fighting instrument. Specifically, as the MEU is called upon more frequently to fulfill its combat missions in today's evermore threatening world, close support by Marine tactical fixed-wing aircraft is essential.

Analysis has shown that the Marine Corps currently possesses state-of-the-art aviation assets which can be organized into composite units capable of providing our forward-deployed MEUs with added firepower. These assets can be incorporated into existing MAGTF doctrinal structure and sustained in forward areas at considerably less cost than

what is required for permanent basing. Today the Marine Corps' primary organization for conventional warfare is the Marine Expeditionary Brigade, and it is at this level that fixed-wing aviation is intended to be employed. However, strategic sea and airlift is required to deploy this unit. The concept here endeavors to eliminate the need for some of this strategic lift by forward deploying portions of the aviation element of these Brigades. This further reduces the amount of strategic assets needed to deploy a Brigade in the event that becomes necessary and, at the same time, places fixed-wing assets under the command of the MEU.

Obtaining the use of appropriate deployment sites is the most difficult issue to solve. There are no easy solutions to this problem; however, I have enumerated several broad possibilities. The most favorable aspect toward achieving these rights is the fact that this composite aviation unit is small, transient, and intended for the mutual benefit of our allies and friends. With this as a foundation, I believe that suitable deployment sites can be obtained through diplomacy, negotiation, and invitation.

In summary, the challenges of the next decade require innovative thought today. Conventional methods of deployment and employment of United States armed forces may not be viable in view of changing threat perceptions. This study is intended to offer an alternative to some of these methods.

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